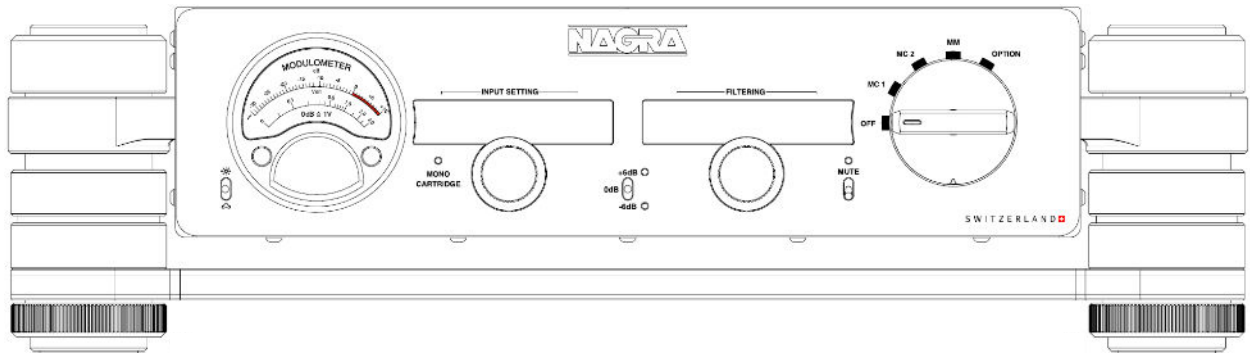


Nagra HD PHONO



USER MANUAL

TABLE OF CONTENTS

| | |
|---|----|
| Safety warnings | 3 |
| Warranty | 3 |
| Congratulations | 4 |
| Package contents | 4 |
| Choosing a location | 5 |
| Horizontal adjustment of the HD PHONO / HD PSU | 5 |
| Powering the HD PHONO | 6 |
| Connection to the Mains | 6 |
| Connection/Disconnection of LEMO cables | 7 |
| Fuse replacement | 8 |
| HD PHONO description | 9 |
| Front panel (audio device chassis) | 9 |
| Rear panel (audio device chassis) | 10 |
| Audio inputs & outputs | 11 |
| Connecting an HD PHONO to an HD PREAMP | 11 |
| Rear panel (power supply chassis) | 12 |
| About the ground post | 12 |
| Power on & Audio input selection | 13 |
| Nagra modulometer | 13 |
| Light intensity adjustment | 13 |
| Mono cartridge LED | 14 |
| Gain selection & LEDs | 14 |
| Mute | 14 |
| Controllers & displays | 15 |
| FILTERING controller and display for de-emphasis curves selection | 15 |
| INPUT SETTING controller and display for MC input parameters | 16 |
| Matching the HD PHONO to your cartridge | 16 |
| Matching the HD PHONO to a Nagra MC-4 cartridge | 16 |
| INPUT SETTING controller and display for MM input parameters | 17 |
| Got external transformer | 18 |
| IR Remote Control Unit | 19 |
| Use of a universal IR Remote Control Unit | 22 |
| Remote automation | 23 |
| Starting the HD PHONO using the REMOTE IN trigger input | 23 |
| Using the REMOTE OUT trigger outputs | 23 |
| Home automation | 24 |
| Tube ageing | 25 |
| Case cleaning | 25 |
| Important remark about the contents | 28 |
| De-emphasis curves | 29 |

Safety warnings

- Read this manual carefully before operating the HD PHONO.
- Should you have any questions on how to setup or use your HD PHONO, please contact your Nagra dealer.
- Audio Technology Switzerland SA declines any responsibility in the event of an accident caused by the non-observance of these instructions or any other form of user negligence.
- The HD PHONO has a specific power supply to work correctly in your country. The power supply voltage can only be changed at the factory. Make sure you have the right operating voltage before switching your device ON.
- The HD PHONO is CLASS I equipment. It is essential that it is connected to a MAINS socket outlet with a protective earthing connection.
- The HD PHONO must not be exposed to dripping or splashing liquids and no objects filled with liquids, such as vases, should be placed on the machine.
- Never try to open your HD PHONO to prevent the risk of electric shock and burns. Only Nagra dealers & skilled technicians are allowed to do it for maintenance and specific settings.

Warranty

Please refer to the addendum enclosed in this User manual.

Congratulations

Congratulations, you have just purchased one of the best phono preamplifiers ever made!

The Nagra HD PHONO was created by an engineering team with more than 70 years of experience designing world-class products for professional audio, national security and military businesses.

Since its inception in 1951, Nagra has built products that continue to earn a reputation for delivering ultimate sonic performance. Numerous awards have been bestowed upon Nagra for its technical innovation, excellence in design and flawless construction including two Oscars® and two Emmys®.

The professional and Hi-Fi ranges are both designed by our Research and Development Department. In 1998 Nagra has created a Hi-Fi range to allow the wider public to benefit from technical advances that are often the sole privilege of professionals.

This technology exists in the service of music, your music. We wish you great moments of listening pleasure with your HD PHONO.

Thank you for your trust.

Package contents

The package of your HD PHONO includes the following parts:

- One (1) HD PHONO audio device chassis
- One (1) HD PHONO power supply chassis
- Four (4) ceramic balls
- One (1) user manual
- One (1) pair of microfiber gloves « Haute Horlogerie »
- One (1) power cord*
- Two (2) umbilical cords with LEMO plugs
- One (1) set of fuses (for 100-127V~ or 230-240V~, depending on your country)
- One (1) remote control unit and its docking station with 3x AA-dry cell

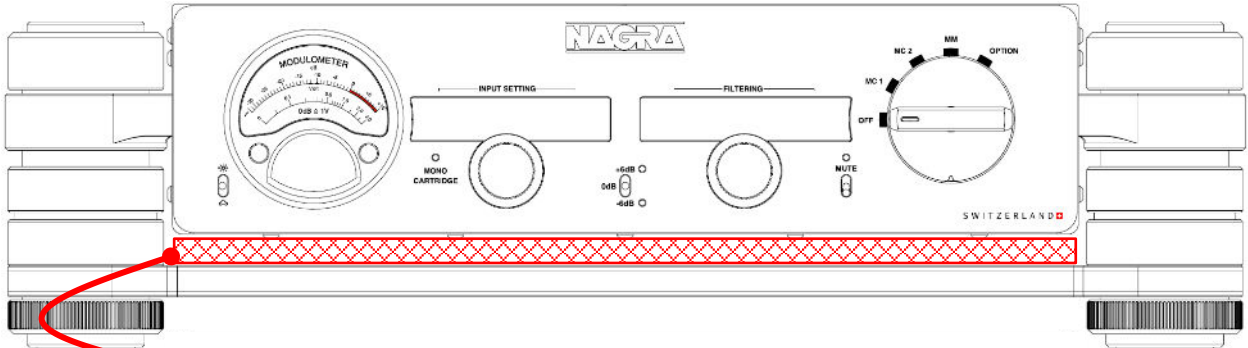
Please contact your Nagra dealer should anything be missing.

* Depending on your country, the power cord features either a US, European or Swiss plug.

INSTALLATION OF YOUR HD PHONO

Choosing a location

The HD PHONO is designed exclusively for indoor use in a moderate climate.



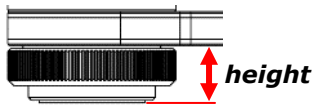
Remove protective foams on **both the audio and power supply units** by pulling them from the back side of chassis to free ventilation apertures (there is a tongue in the middle of each foam plate to pull them out)
After removing the foam, make sure to tighten the feet

The HD PHONO is contained in two chassis: one audio device and one power supply. These components must be installed horizontally on a suitable flat, firm, and stable platform.

There must be enough space all around the chassis for adequate ventilation.

Ventilation should not be impeded by covering the ventilation openings with items such as newspapers, tablecloths, curtains, etc.

Horizontal adjustment of the HD PHONO / HD PSU

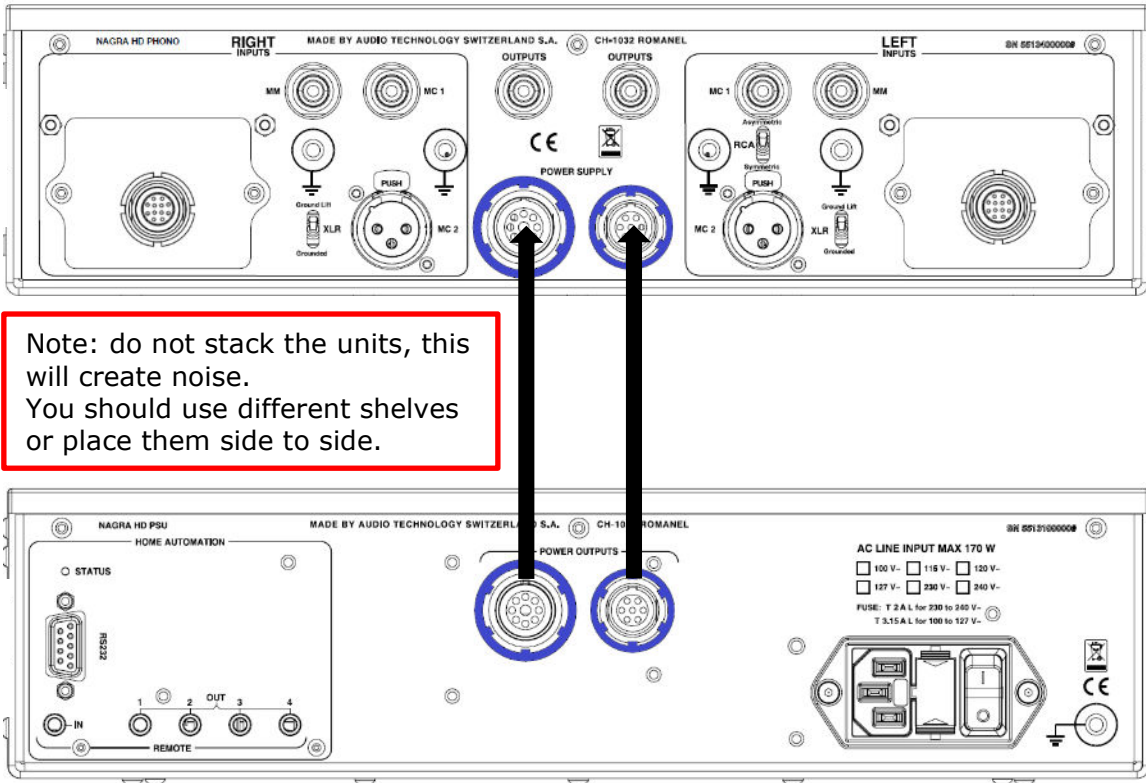


Each chassis has four decoupling feet whose height can be adjusted with a wheel (knurled part). Turning the wheel adjusts the height of the foot and thus the level of the chassis.

Powering the HD PHONO

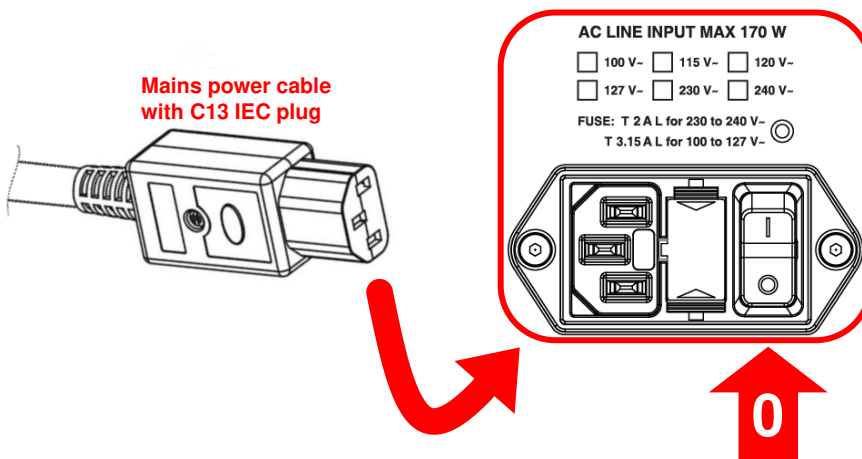
The power cord of the HD PHONO is connected on the rear panel of its power supply chassis. The power supply chassis converts the Mains supply into several different regulated voltages sent to the audio device chassis through two umbilical cords with LEMO plugs. These cords are supplied with the HD PHONO.

The HD PHONO LEMO cables & chassis sockets have **BLUE** rings.



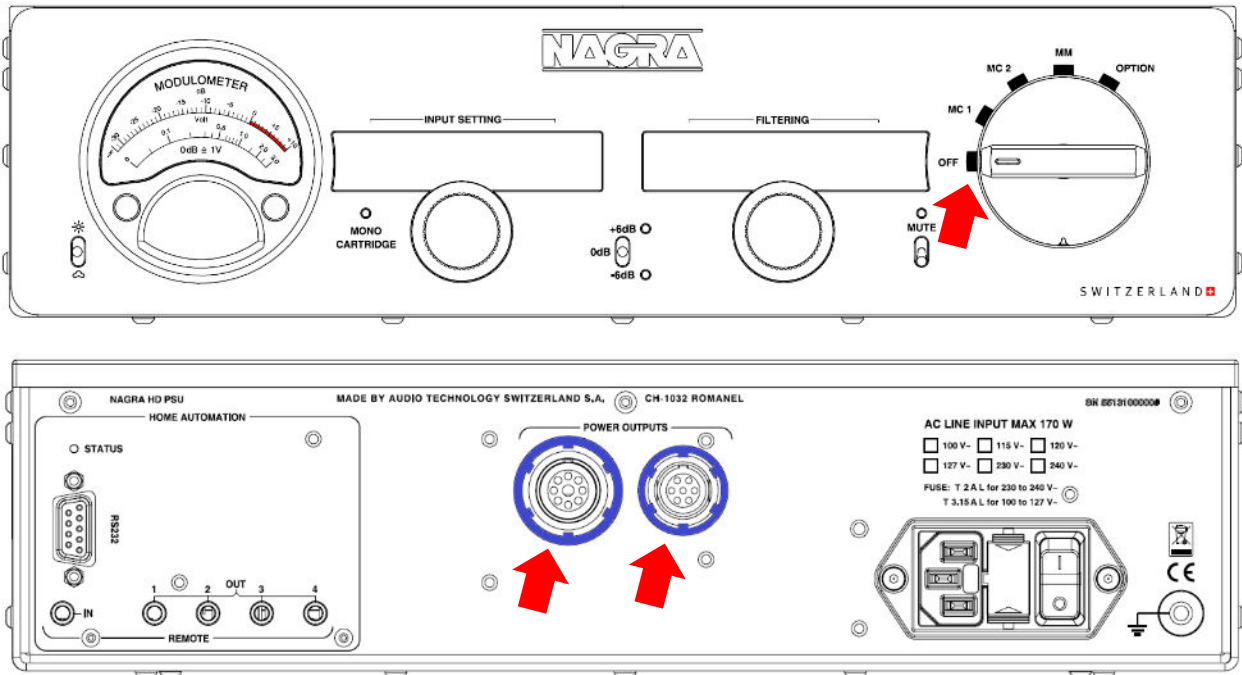
Note: do not stack the units, this will create noise. You should use different shelves or place them side to side.

Connection to the Mains



Push the C14 IEC Appliance inlet switch at the back of the power supply chassis into the 0 (OFF) position. Insert the C13 IEC Mains cord into the C14 IEC Appliance inlet connector.

Connection/Disconnection of LEMO cables

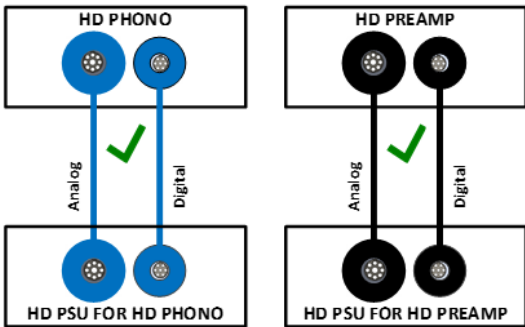


Turn the front rotary selector of the audio device chassis to the **OFF** position. Insert one LEMO plug of each umbilical cord into the matching LEMO socket at the back of the power supply chassis. Please note that the red dot on the LEMO plugs must be facing up before trying to insert them into the chassis sockets. You will hear a click indicating that the plug is securely locked in.



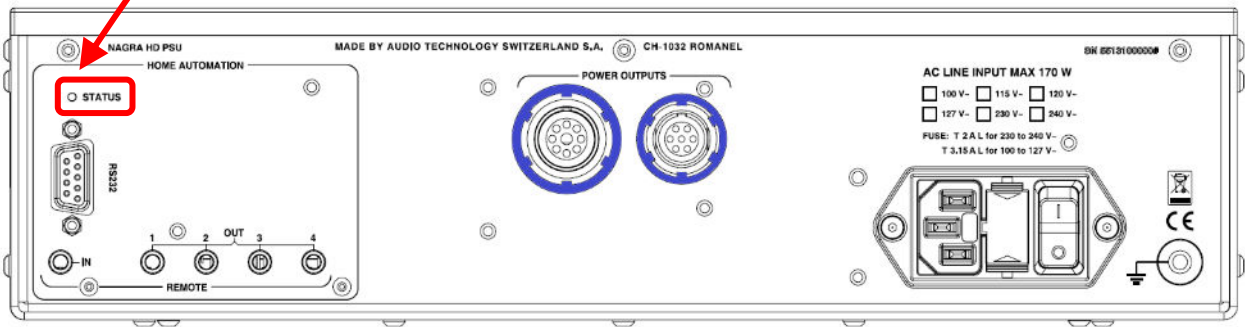
To disconnect the LEMO plug, hold the knurled section of the plug and pull it backwards.

NOTE

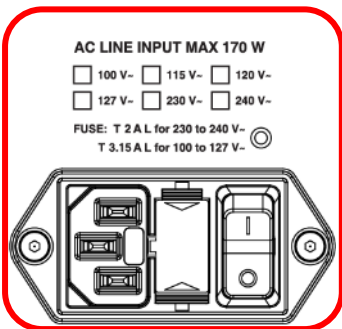


There is a coloured ring around each LEMO socket on both chassis and around each LEMO plug on both cables. So, if you possess several Nagra HD devices such as an HD PHONO and an HD PREAMP, be sure to connect the right power supply chassis with the right audio device chassis by using the correct cables (same colour of ring). This is important because the power supply chassis have different output configurations.

The **STATUS LED** located on the rear panel of the power supply chassis could turn ON when you move the HD PHONO front rotary selector to a position other than OFF with a wrong cabling. In this case, the audio device chassis does not switch ON for safety reasons.



Fuse replacement

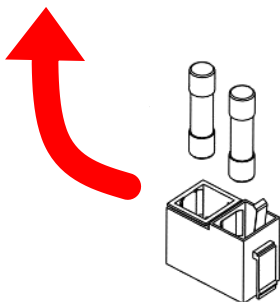


The fuse holder located in the C14 IEC Appliance inlet of the power supply chassis, between the IEC connector and the switch, includes a replacement fuse. The fuse type is:
FST 5x20 mm 250 V.

Should you need to replace it, use only the same fuse type and value.

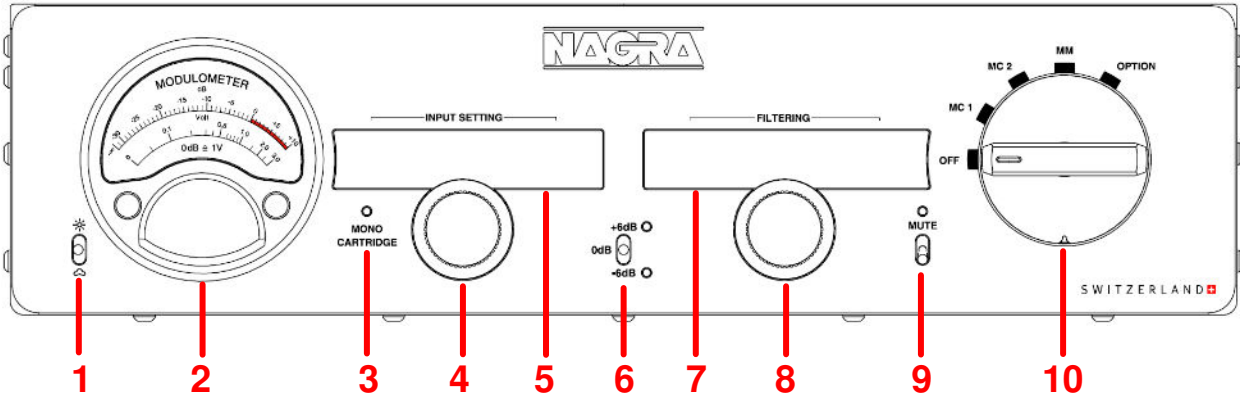
T 3.15A L for 100 V~ to 127 V~ versions.
T 2A L for 230 V~ to 240 V~ versions.

Should the fuse blow more than once, please contact your Nagra dealer for assistance.



HD PHONO description

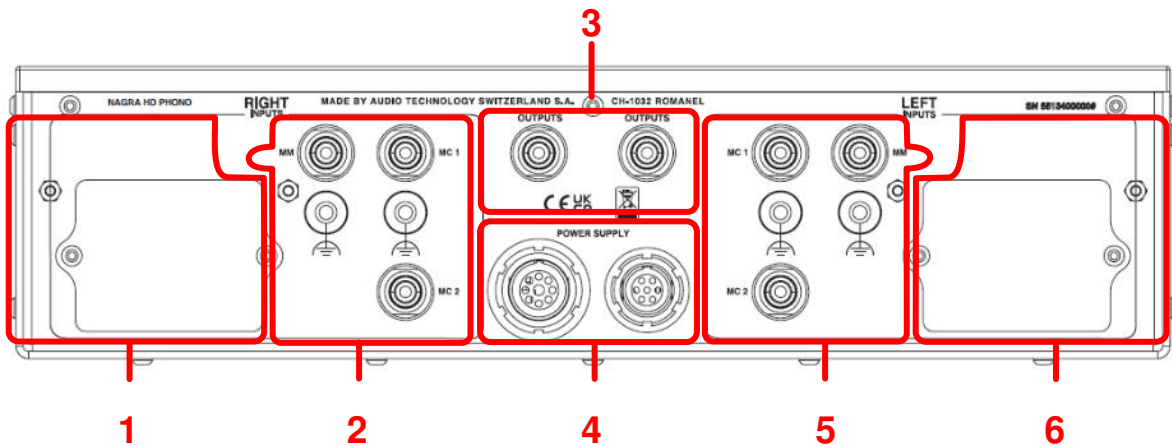
Front panel (audio device chassis)



- 1 Modulometer & displays brightness switch
Push up for more intensity, push down for less, there are five intensity levels
- 2 Nagra Modulometer: Indicates output level in dB. Reference 0 dB = 1 V_{RMS}
- 3 MONO CARTRIDGE LED
- 4 INPUT SETTING controller
- 5 INPUT SETTING display
- 6 Gain selector and its LEDs (+6dB / 0dB / -6dB)
- 7 FILTERING display
- 8 FILTERING controller
- 9 MUTE switch with LED, will blink during preheating sequence
- 10 Front rotary selector

NB When turned ON, the HD PHONO will enter a preheating sequence to optimize tubes performance and warm-up critical components. This will allow your HD PHONO to offer excellent performance for years to come.

Rear panel (audio device chassis)



- 1 RIGHT channel OPTION input panel
- 2 RIGHT channel MM & MC inputs
- 3 RCA outputs
- 4 LEMO power supply inputs (Analog 9 pins + Digital 7 pins) with dedicated colour rings (**BLUE**)
- 5 LEFT channel MM & MC inputs
- 6 LEFT channel OPTION input panel



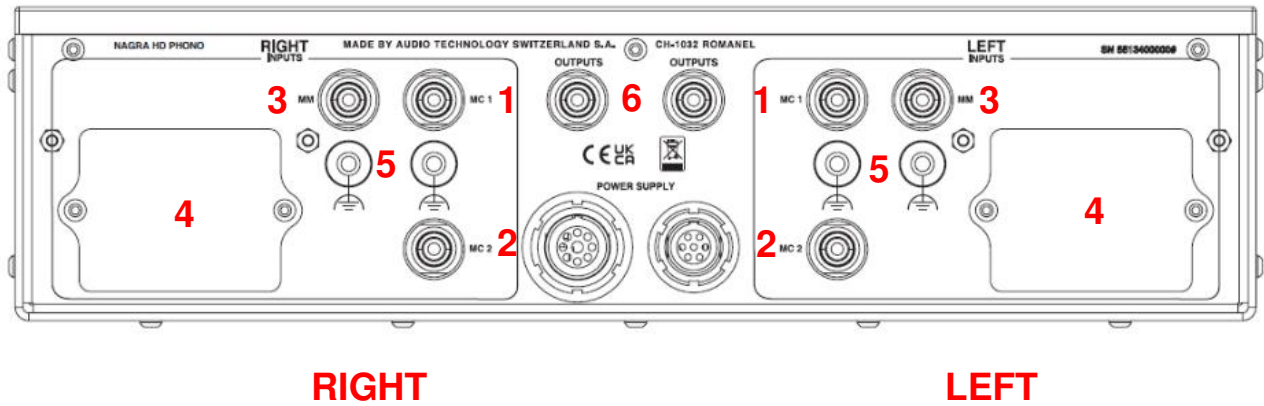
RCA output is unbalanced.

Please find more details in the following paragraphs.

**Be careful, when cabling sources and preamplifier to your HD PHONO,
to properly connect them with the appropriate cables
so as not to decrease audio signal quality!**

**Pay attention to the grounding to avoid any potential differences between
equipment that could permanently damage your HD PHONO,
especially when using Mains power filters!**

Audio inputs & outputs



The input is selected with the front rotary selector (see on page 16)

1 MC1 RCA

2 MC2 RCA

3 MM RCA

4 OPTION Available from middle of 2024

5 GROUND POSTS Two ground posts are available on each channel to perform ground connections with your turntable if required. An additional ground post will be available on the OPTION input module

6 Outputs The cold point of both RCA connectors is connected to the audio ground. Note this is an unbalanced connection.

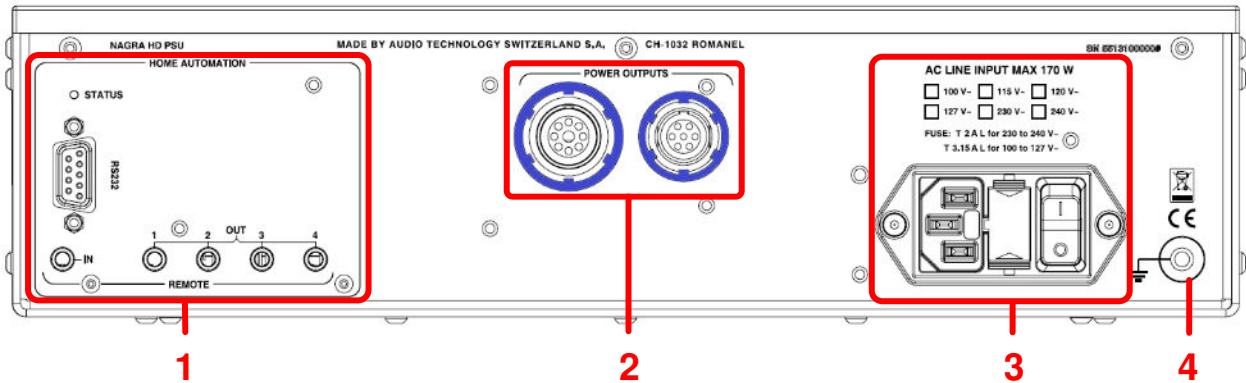
Connecting an HD PHONO to an HD PREAMP

It is recommended to connect the HD PHONO to HD PREAMP's inputs RCA1 or RCA2. Should you use RCA3, place the selector on "LOW" to match sensitivities.



Please be sure not to have any potential difference between the HD PHONO chassis and other audio equipment (correct grounding). Otherwise, there is a risk damaging the HD PHONO.

Rear panel (power supply chassis)



- 1 STATUS LED for software upgrade & detection of wrong audio device chassis
SUB-D9 for Home automation
REMOTE IN (1x) to be driven by a MAIN device - 3.5 mm (1/8") stereo Jack
REMOTE OUT (4x) to drive CONTROLLED devices - 3.5 mm (1/8") stereo Jack
- 2 LEMO power supply outputs (Analog 9p, Digital 7p) with dedicated colour rings (**BLUE**)
- 3 C14 IEC Appliance inlet with switch and fuse + voltage version & fuse value information
- 4 Ground post

About the ground post

This feature is very useful to solve setup issues. Your Nagra dealer will assist you on when and how to use this connector.

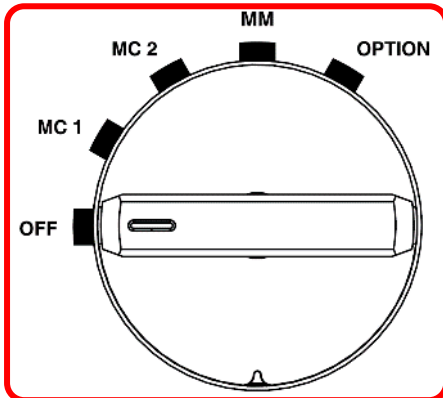
OPERATION OF YOUR HD PHONO

Only proceed if you have completed the installation steps as described in the previous chapter INSTALLATION OF YOUR HD PHONO.

Power on & Audio input selection

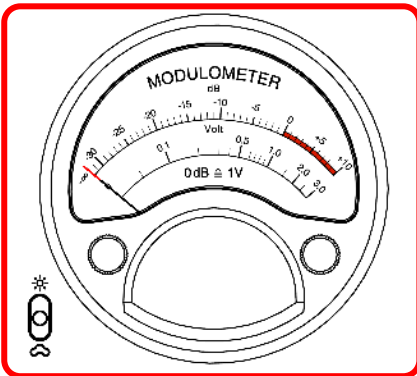
To use your HD PHONO, first you must push the Mains power switch to position **1 (ON)**. The Mains power switch is located on the rear panel of power supply chassis.

The front rotary selector offers 5 positions to select the desired input or to switch your HD PHONO OFF:



- OFF** Similar to a STANDBY mode, the unit is still powered but the consumption remains very low
- MC1** Selection of MC1 input
- MC2** Selection of MC2 input
- MM** Selection of MM input
- OPTION** Selection of OPTION input

Nagra modulometer

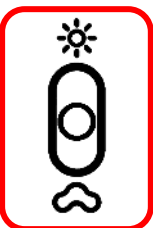


The Nagra modulometer is inherited from the second recorder developed by Nagra back in 1952, the Nagra II. The Modulometer is a typical Nagra precision instrument that displays the necessary information to achieve the best possible audio level setting. In the case of the HD PHONO, the modulometer displays the selected audio output level.

Reference 0 dB = 1 V_{RMS}.

Left channel - black needle
Right channel - red needle

Light intensity adjustment



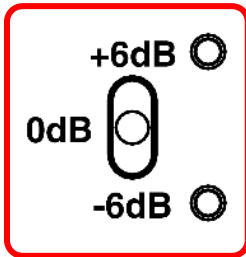
This two-way toggle switch allows you to adjust the Modulometer & displays backlight intensities. Pushing the toggle up will increase the brightness, pushing it down will lower the brightness all the way to no illumination. There are five different intensity levels.

Mono cartridge LED



It turns ON when the mono cartridge option is selected in the INPUT SETTING scrolling list (left display). Use the LEFT channel input to connect your mono cartridge.

Gain selection & LEDs

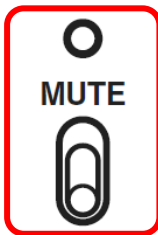


+6dB
The upper LED is ON.

0dB
Both LEDs are OFF.

-6dB
The lower LED is ON.

Mute



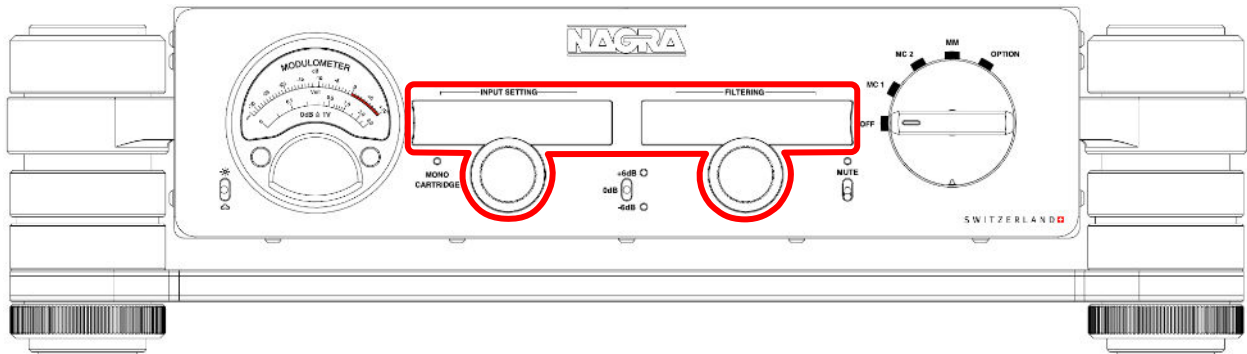
The outputs of the HD PHONO can be set to standby mode when you activate the MUTE switch. Pulling up the switch will activate the muting (no more sound) and light the yellow LED. Pulling down the switch will deactivate the muting and turn the yellow LED off. The HD PHONO outputs will be working again.

Controllers & displays

The controllers & displays allow the selection of the desired parameters for the selected input. The controllers perform a circle selection when you push or turn them. The displayed parameter value of each menu is directly selected, activated and stored when the unit is powered off.

With the left INPUT SETTING controller you can set the different parameters of the selected input such as cartridge mode (mono or stereo), loading.

With the right FILTERING controller you select the de-emphasis curve of the selected input.

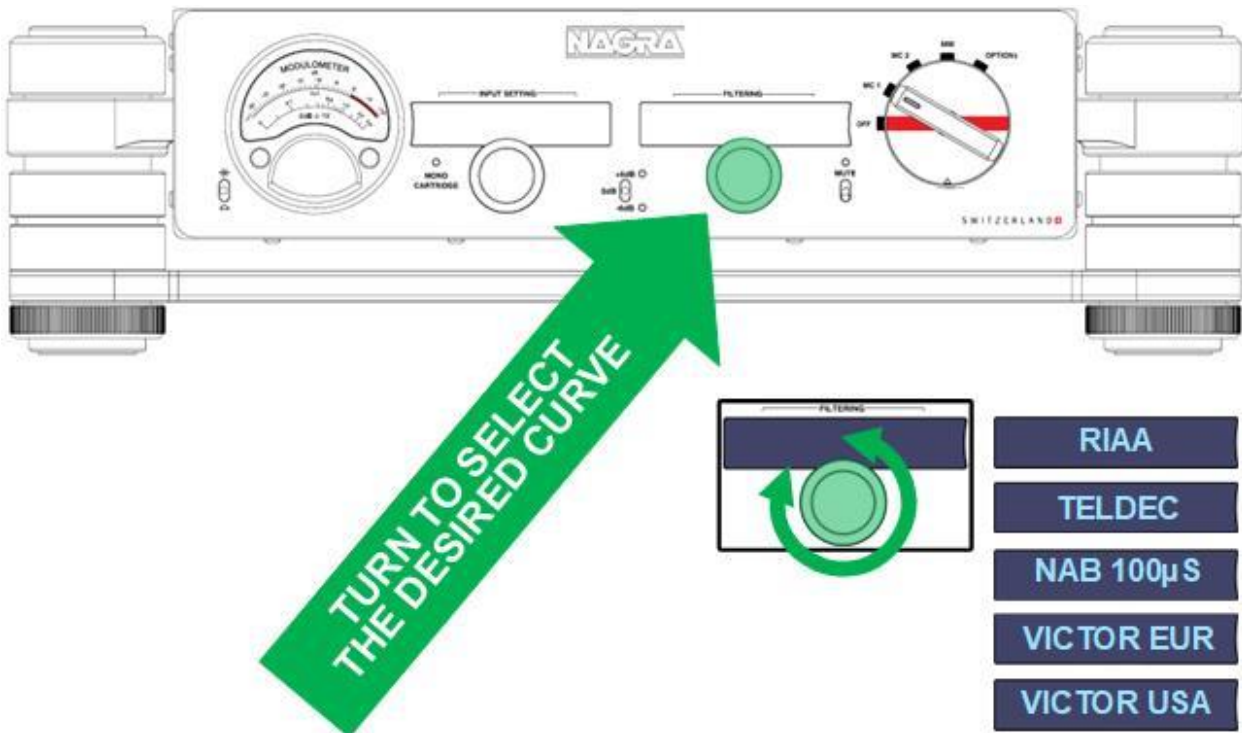


FILTERING controller and display for de-emphasis curves selection

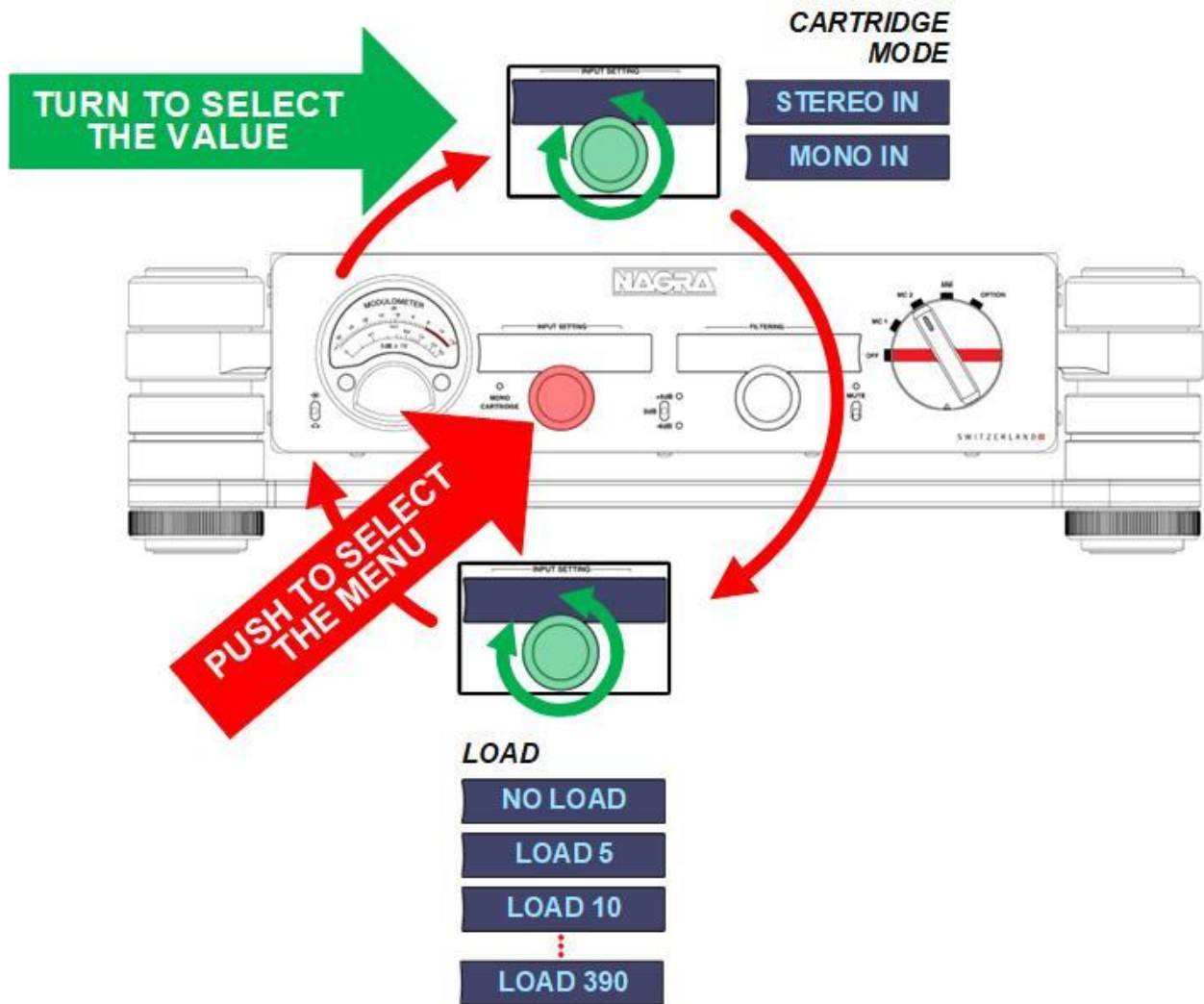
Whatever the input selected, the available curves are the same.

See the chart in the TECHNICAL SPECIFICATIONS paragraph at the end of this manual.

Every time you change input, the curve is reset to RIAA.



INPUT SETTING controller and display for MC input parameters



Matching the HD PHONO to your cartridge

Refer to the cartridge manual to find recommended loading.

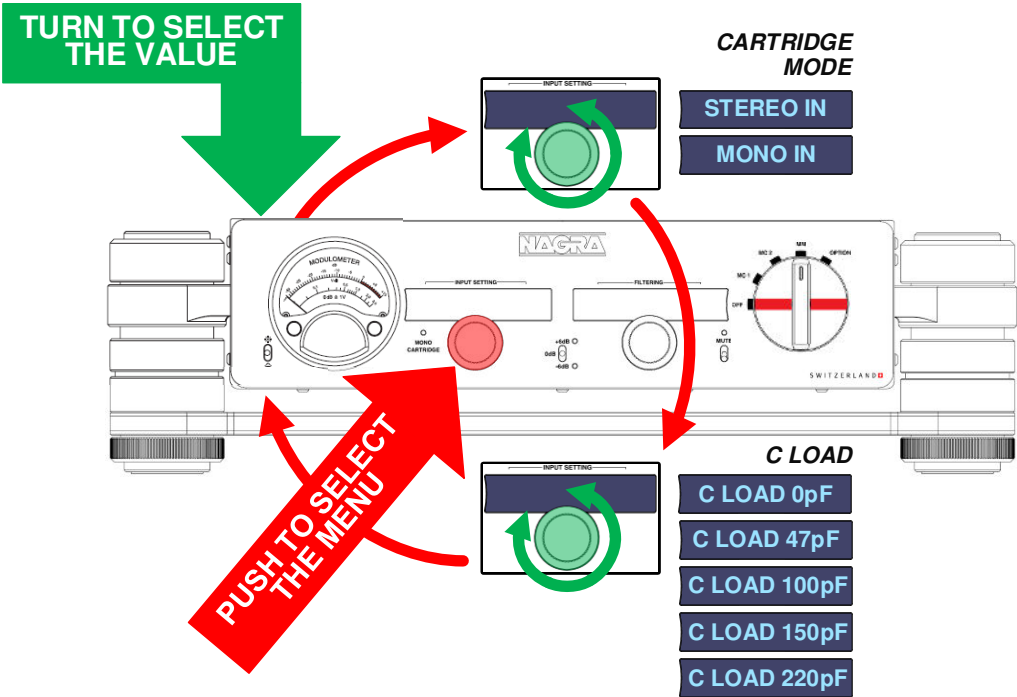
Thanks to the remote control, you can adjust the loading while playing music, to find the perfect match for your cartridge.

Matching the HD PHONO to a Nagra MC-4 cartridge

The recommended load for a Nagra MC-4 cartridge is 50 Ohms.

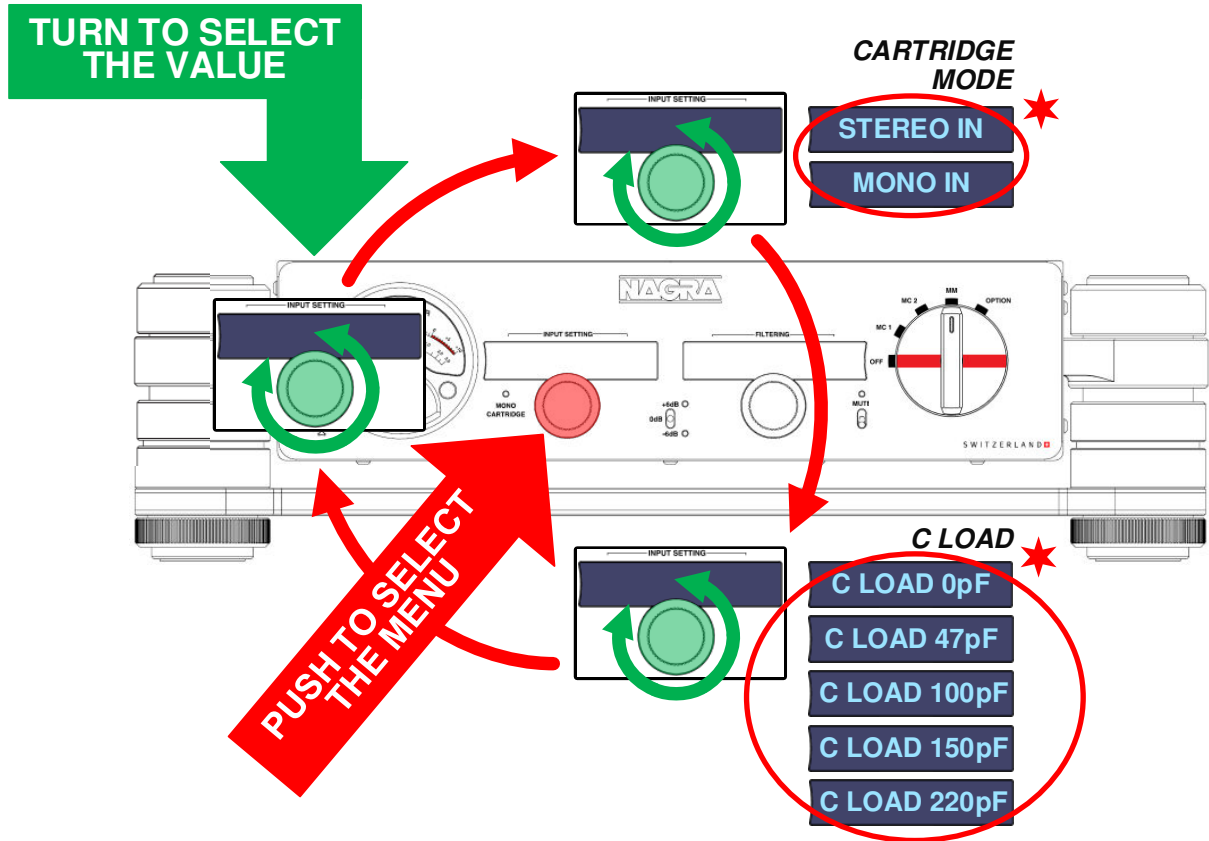
However the match depends on your set-up so feel free to play around this number.

INPUT SETTING controller and display for MM input parameters





Got external transformer

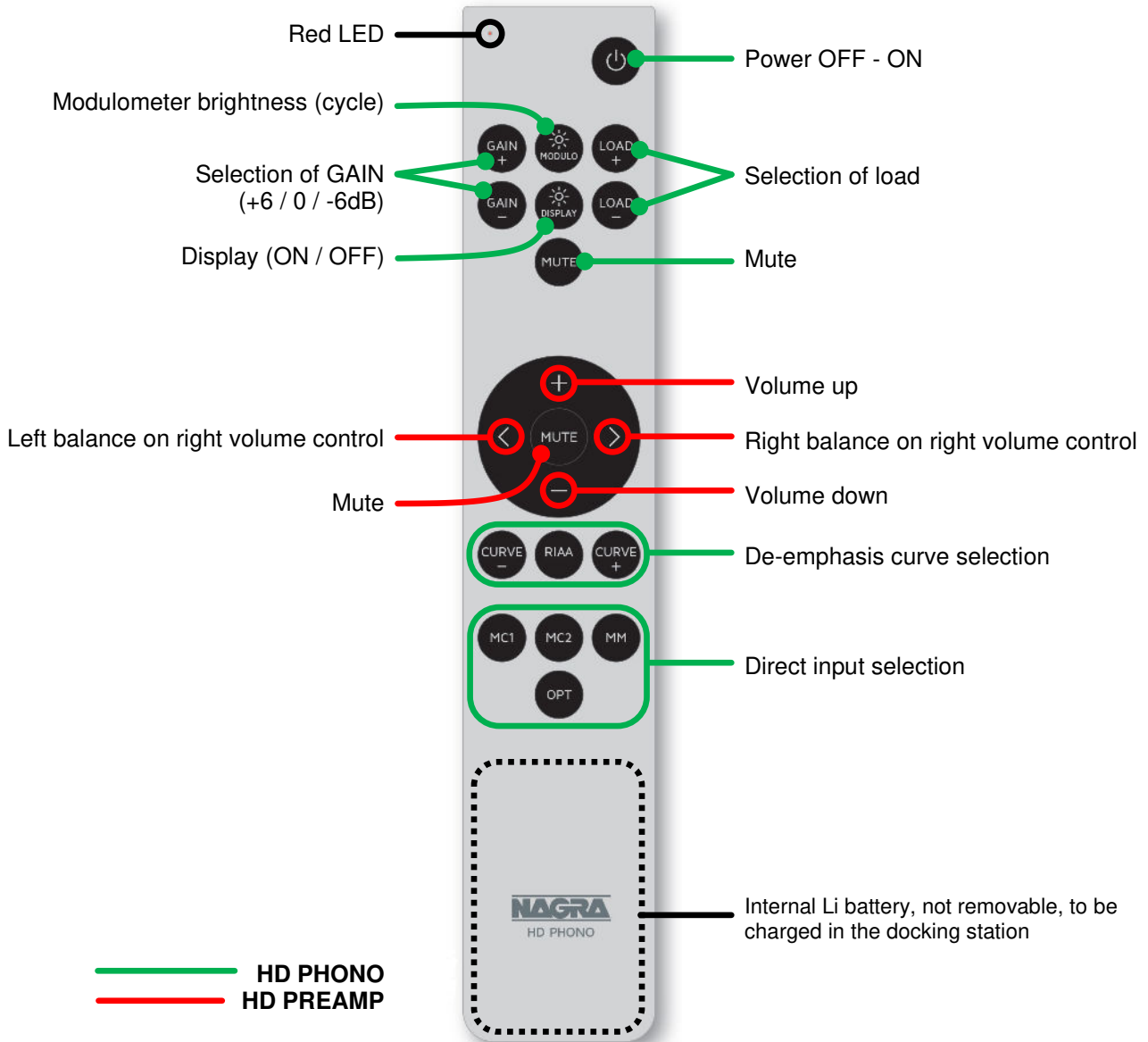
You can use the HD PHONO with external transformers connected on MM inputs. Then configure the appropriate setting (★) that depends on the specifications of your transformers:



IR Remote Control Unit


 The Remote Control Unit, with battery installed, must not be exposed to excessive heat such as sunshine, fire or similar.
 

The HD PHONO currently comes with the following IR Remote Control Unit (Ruwido R-Step format encoding).



REMOTE ACTIVATION

To protect the Li battery in the device during transport, the Remote Control Unit keys have been locked. To unlock them, press on central MUTE for 5 seconds until the red LED blinks twice.

Red LED on Remote Control Unit

The red LED lights ON when pressing any key on the Remote Control Unit. If not, it means either the Remote Control Unit keyboard is locked or the Remote Control Unit Li battery is empty. Insert the unit into the docking station to charge the Li battery.

Power OFF - ON key

Toggle key to switch the HD PHONO ON and OFF. When switching ON, HD PHONO automatically turns the front selector to the last input selection active before last power OFF.

Note: This key is not operative when a REMOTE AUTOMATION jack cable is connected to the REMOTE IN socket of the power supply chassis!

“+” and “-” volume keys (HD PREAMP)

To move both left and right volume controls simultaneously, either up or down, press on key briefly for a $\pm 0.5\text{dB}$ change, or longer for bigger volume differences. The volume controls can be set to work either in synchronized mode or in desynchronised mode.

“<” and “>” keys (HD PREAMP)

With synchronized volume controls = No effect

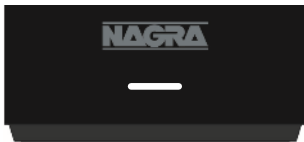
With desynchronized volume controls = step of $\pm 0.5\text{dB}$, only on right volume control!

Docking station usage

To charge the Remote Control Unit Li battery, insert the unit into the docking station (unit keyboard towards docking station front). Fully charged, the Remote Control Unit will work for around 2-3 months, depending on usage. The 3x AA-dry cells in the docking station will be able to charge the Li battery for about 3 years.

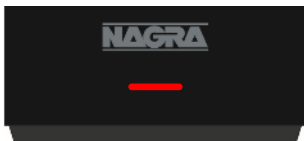
Docking station LED indicator

The LED on the front indicates the condition of the Remote Control Unit Li battery when the unit is inserted into the docking station:



WHITE blinking

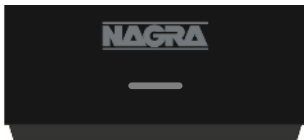
The Li Battery in Remote Control Unit is charging.



RED blinking

A. The 3x AA-dry cells are almost exhausted and deliver a voltage too low to load the Li Battery in the Remote Control Unit, exchange them.

B. The Remote Control Unit is defective. Please contact your Nagra dealer.



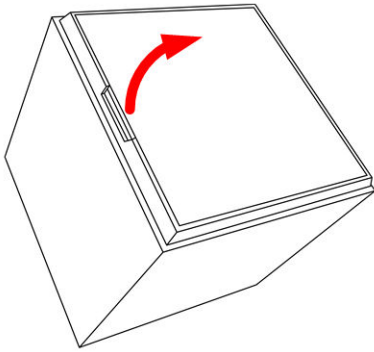
Permanently OFF

The Li Battery in the Remote Control Unit is fully charged or the Remote Control Unit is not properly inserted into the docking station. Remove and reinsert the unit into the docking station. If the LED blinks white everything is OK, if not, the 3x AA-dry cells are exhausted and must be exchanged.

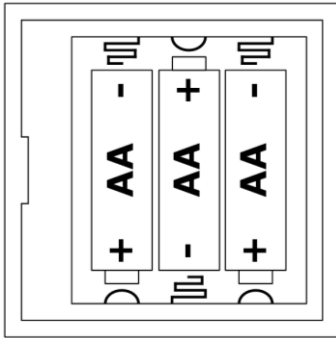
NOTE

When the Li Battery in the Remote Control Unit is fully charged, the docking station only uses a small amount of current to maintain the full charge. There is no risk of overload even if the Remote Control Unit is inserted in the docking station for a long time

Battery installation/exchange in docking station



Open the battery box by inserting your thumb nail into the groove and lift the bottom panel up (magnet lock).



Replace empty batteries with 3x new AA-dry cell batteries.

Warning

Do not use any mechanical tool to open the docking station battery box.
You could damage the body or the panel of the unit.



By ensuring battery is disposed of correctly, you will help prevent potential negative consequences for the environment and human health. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of battery, please contact your local authority, your household waste disposal service or the shop where you purchased the battery.

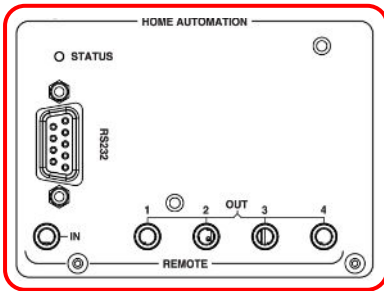
Use of a universal IR Remote Control Unit

The HD PHONO responds to IR (Infra-Red) signals encoded in RUWIDO R-Step format. A default code 24 has been allocated to the Nagra HD PHONO.

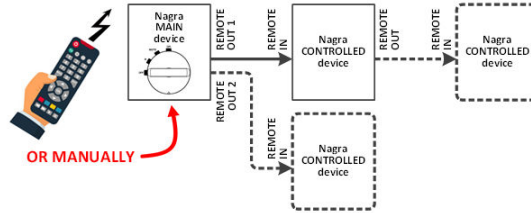
Should you wish to program your universal Remote Control Unit, please use the following table:

| Code | Device group number | Key |
|-------------------------------|---------------------|---|
| HD PHONO | | |
| 12 | 24 | Power ON/OFF |
| 13 | 24 | Mute |
| 15 | 24 | Display brightness (cycle) |
| 18 | 24 | Modulometer brightness (cycle) |
| 30 | 24 | CURVE + (next de-emphasis curve) |
| 31 | 24 | CURVE - (previous de-emphasis curve) |
| 38 | 24 | LOAD + (next load) |
| 39 | 24 | LOAD - (previous load) |
| 43 | 24 | GAIN + (one step up in the range -6dB/0dB/+6dB) |
| 44 | 24 | GAIN - (one step down in the range -6dB/0dB/+6dB) |
| 58 | 24 | RIAA (selection of the RIAA de-emphasis curve) |
| 110 | 24 | MC1 input selection |
| 111 | 24 | MC2 input selection |
| 112 | 24 | MM input selection |
| 113 | 24 | OPT input selection (optional module) |
| HD PREAMP – Philips RC-5 code | | |
| 13 | 16 | Mute |
| 16 | 16 | + (Volume up) |
| 17 | 16 | - (Volume down) |
| 26 | 16 | > (Right balance) |
| 27 | 16 | < (Left balance) |

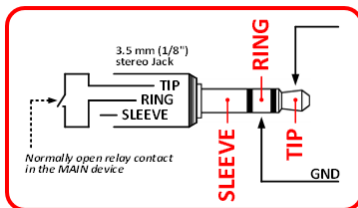
Remote automation



It allows you to switch a complete configuration of Nagra devices ON/OFF by only driving the MAIN device manually or with an IR Remote Control Unit if available:



Starting the HD PHONO using the REMOTE IN trigger input



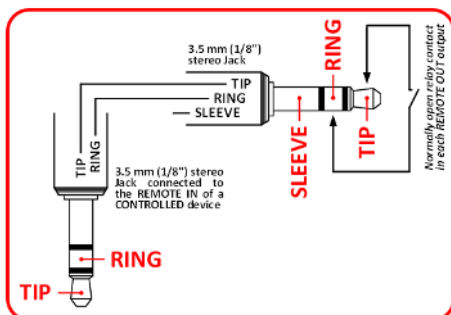
Please note that the RING contact of the 3.5 mm (1/8") stereo Jack inserted in the **REMOTE IN** input is connected to the ground in the power supply chassis.

| Signal on the TIP | HD PHONO |
|---|----------|
| Loop closed between TIP and RING (MAIN device ON) or TIP connected to the GND in the MAIN device | ON |
| Loop open between TIP and RING (MAIN device OFF) or TIP connected to max +12V --- in the MAIN device | OFF |

If a 3.5 mm (1/8") stereo Jack connector is inserted into the **REMOTE IN** input, this control gains priority over the IR Remote Control Unit and RS232 commands (ON-OFF key switch on IR Remote Control Unit no longer works).

As soon as the HD PREAMP is switched ON, the front rotary selector turns itself to the selected input before it was last switched off. If you manually turn the front rotary selector to the OFF position when TIP and RING are shorted (loop closed), it will turn itself back to the last selected input.

Using the REMOTE OUT trigger outputs

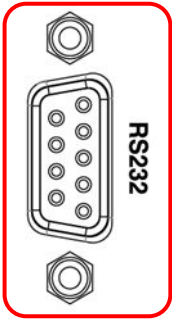


| HD PHONO | TIP & RING contacts |
|---|--|
| REMOTE OUT activated (HD PHONO ON) | Loop closed between TIP and RING when the HD PHONO or the MAIN device connected on the REMOTE IN are switched ON |
| REMOTE OUT not activated (HD PHONO OFF) | Loop open between TIP and RING when the HD PHONO or the MAIN device connected on the REMOTE IN are switched OFF |

NB The relay contact activation is done at the beginning of the start-up sequence when turning the HD PHONO ON.

Note Use standard 3 contact 1/8" cables to connect the different devices. For more information, please ask your Nagra dealer who will provide you with a specific document on the topic: Nagra Remote automation - User+service instruction - 2055000159 - How does it work.

Home automation



All commands are sent/received on the SUB-D9 connector located on the rear panel of the power supply chassis. The serial settings are: 115200 bits per second, 8 data bits, no parity, 1 stop bit.

All commands are executed after sending the command itself and terminating with a <CR> (carriage return).

| Command | Description |
|------------|-----------------------|
| PWON | Power ON |
| PWSTANDBY | Standby |
| MUON | MUTE ON |
| MUOFF | UNMUTE |
| SILEFT | Select previous input |
| SIRIGHT | Select next input |
| SI1 | MC1 input |
| SI2 | MC2 input |
| SI3 | MM input |
| SI4 | OPTION input |
| GAINPLUS | + 6 dB gain |
| GAINMINUS | - 6 dB gain |
| CURVEPLUS | Next curve up |
| CURVEMINUS | Next curve down |
| LOADPLUS | Next load up |
| LOADMINUS | Next load down |

Tube ageing

Nagra selects the HD PHONO tubes according to exacting criteria. Their theoretical minimum useful life is 5'000 hours. In actual fact, some tubes operate consistently for more than 10'000 hours.

Thus, the useful life of the tubes is somewhat unpredictable. Rather than replacing the tubes arbitrarily after 5'000 hours, we suggest that you identify the signs of ageing:

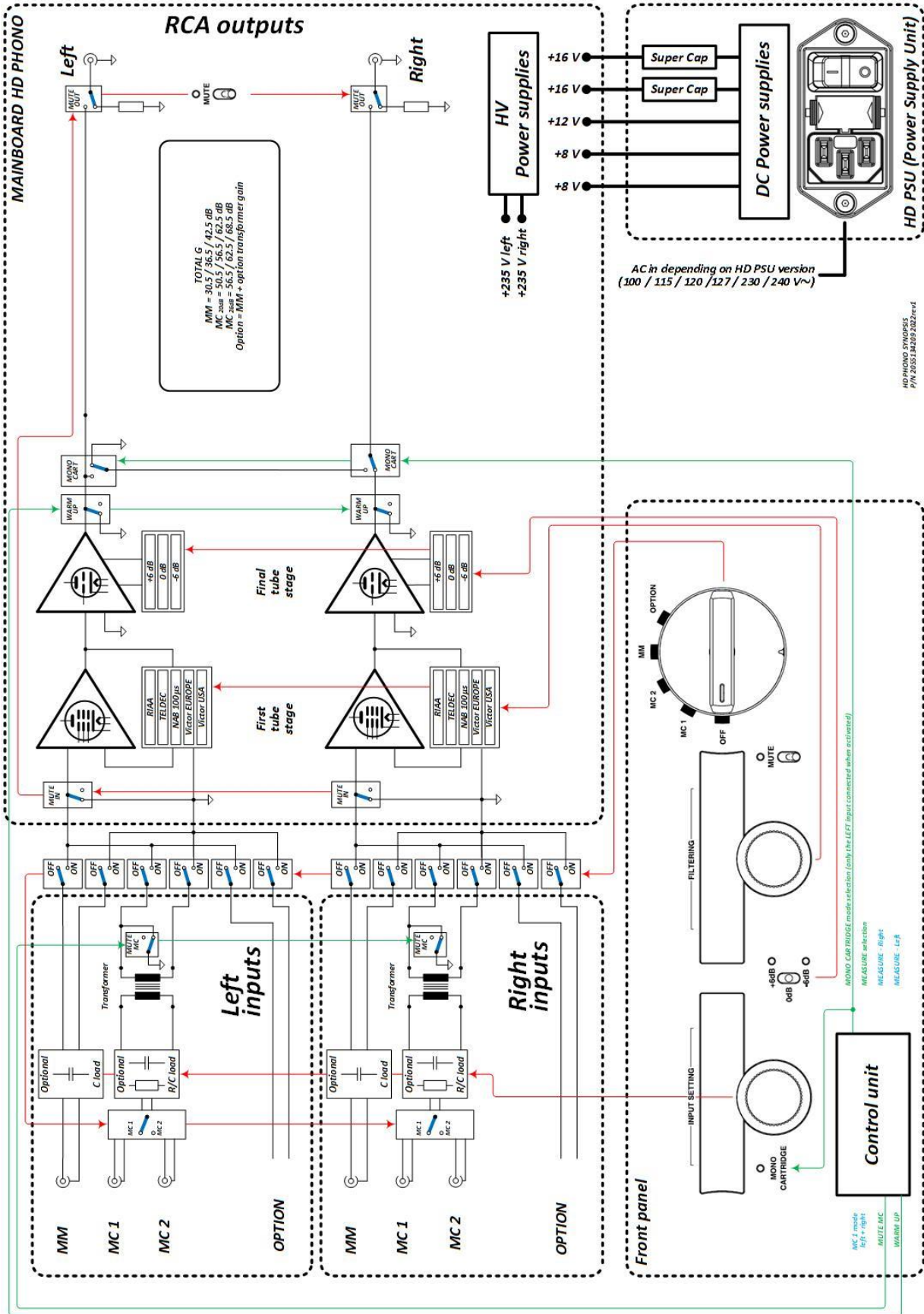
- Distortion gently increases to an audible level
- Presence of clicks (dry, brief noises, like dead wood snapping)
- Presence of pops, brief noises in the low frequencies
- Presence of hiss, higher background noise
- Reduction of spaciousness, loss of naturalness

As soon as one of these signs appears, please contact your Nagra dealer to order an HD PHONO replacement tube kit (see Accessories chapter for reference).

Case cleaning

Clean the HD PHONO chassis, the IR Remote Control Unit and its docking station by using a soft, lint-free, slightly damp cloth. Do not use any cleaning products that could have a corrosive effect.

Synopsis



TECHNICAL SPECIFICATIONS

| | | |
|--------------------------------------|---|--|
| Transformers ratio | 26 dB | @ MC inputs |
| Tube stage gain | 30.5 dB 36.5 dB 42.5 dB | Gain switch @ -6 dB Gain switch @ 0 dB Gain switch @ +6 dB |
| Maximum gain | Transformers ratio and tube stage gain 68.5 dB with gain switch @ +6 dB | |
| Output impedance | < 500 Ω | |
| Frequency response | 10 Hz - 100 kHz | +1.5 dB / - 2 dB |
| Signal to noise ratio | 80 dB | ASA A |
| Dynamic range | > 150 dB | |
| Output level | 1 V _{RMS} for 0 dB | |
| Harmonic levels | < 0.1 % | @ 1 kHz, 1 V out, no load |
| Crosstalk | > 80 dB | @ 1 kHz, 1 V RMS |
| Filtering | De-emphasis curves selectable with the FILTERING controller & display: RIAA, TELDEC, NAB 100 μ S, VICTOR EUR, VICTOR USA | |
| Input setting - MC1 & MC2 | RCA Cartridge mode: STEREO IN / MONO IN Load: NO LOAD / 5 / 10 / 15 / 25 / 30 / 35 / 40 / 50 / 55 / 60 / 65 / 75 / 80 / 85 / 90 / 100 / 105 / 110 / 115 / 125 / 130 / 135 / 140 / 150 / 155 / 160 / 165 / 175 / 180 / 185 / 190 / 200 / 205 / 210 / 215 / 225 / 230 / 235 / 240 / 250 / 255 / 260 / 265 / 275 / 280 / 285 / 290 / 300 / 305 / 310 / 315 / 325 / 330 / 335 / 340 / 350 / 355 / 360 / 365 / 375 / 380 / 385 / 390 (Ω) | |
| Input setting - MM | RCA Cartridge mode: STEREO IN / MONO IN C load: 0 pF / 47 pF / 100 pF / 150 pF / 220 pF | |
| Input setting - OPTION | Cartridge mode: STEREO IN / MONO IN | |

Specifications may change without prior notice.

| | | |
|---|--|---|
| Vacuum tubes | 2x E88CC/6922 4x EF806S-Gold | Measured and selected by Nagra Lab |
| Remote automation | | |
| Input | 1x 3.5 mm (1/8") stereo Jack socket | Input command |
| Output | 4x 3.5 mm (1/8") stereo Jack socket | Output switching by relay |
| Home automation | 1x SUB-D9 connector | RS232 115200 bits/s, 8 data bits, no parity, 1 stop bit |
| Mains power | C14 IEC Appliance inlet 100 V~, 115 V~, 120 V~, 127 V~, 230 V~ or 240 V~ NOT ADJUSTABLE | For cable with C13 IEC plug ±10%, 50-60 Hz |
| Power consumption | 170 W max | |
| Mains fuse | | |
| 230V~ to 240V~ | T 2A L | FST 5x20 mm 250 V |
| 100V~ to 127V~ | T 3.15A L | FST 5x20 mm 250 V |
| Operating temperature | +15°C to +35°C +59°F to +95°F | Moderate climate |
| Operating environment | Indoor only | IP30 |
| Dimensions with VFP LxWxH | | |
| Power supply chassis (HD PSU) | 439 x 438 x 121-130 mm | 17.3 x 17.3 x 4.8-5.1 in |
| Audio device chassis | 439 x 438 x 121-130 mm | 17.3 x 17.3 x 4.8-5.1 in |
| Audio device chassis with option modules installed on the back panel | 495 x 438 x 121-130 mm | 19.5 x 17.3 x 4.8-5.1 in |
| Weight with VFP (net) | | |
| Power supply chassis (HD PSU) | 16.5 kg | 36.4 lb |
| Audio device chassis without option modules | 14.5 kg | 32 lb |

Specifications may change without prior notice

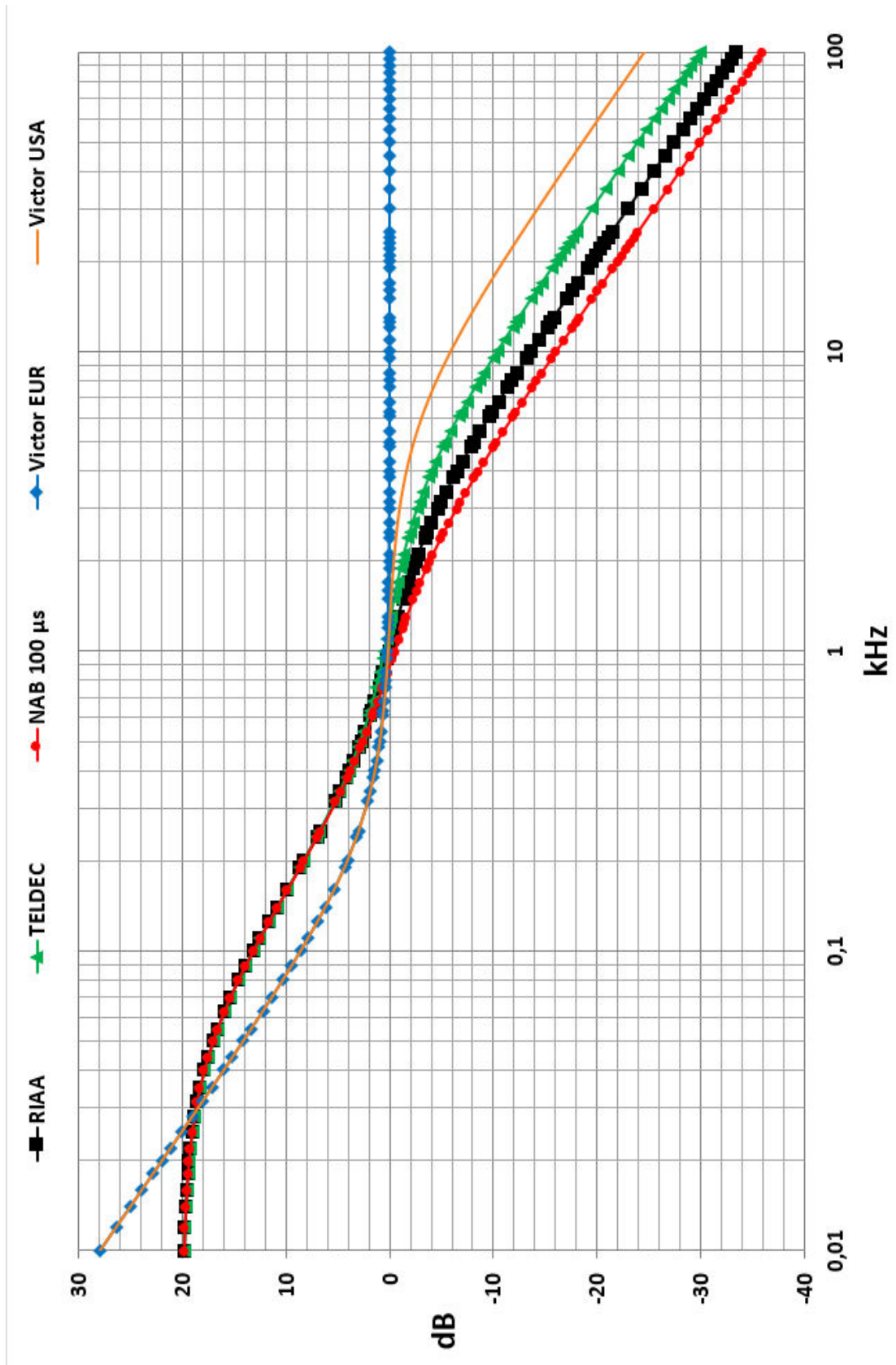
Important remark about the contents

Note

The descriptions, the information, the technical data present in this document refer to Nagra devices running with specific software versions. New unit shipped from Nagra have the latest software.

HD PHONO software version **1.0.0** or above

De-emphasis curves



AVAILABLE ACCESSORIES & REPLACEMENT PARTS

| ATS ref | Part description | Comment |
|------------|--|--|
| 4181311200 | FST 5x20mm T 2A L / 250V fuse cartridge | For 230V~ to 240V~ versions |
| 4181311315 | FST 5x20mm T 3.15A L / 250V fuse cartridge | For 100V~ to 127V~ versions |
| 7055134010 | HD PHONO input OPTION module kit | Not available before middle 2024 |
| 7055134030 | HD PHONO spare tube kit | 2x E88CC/6922 + 4x EF806S-Gold selected by Nagra Lab |
| 7055430000 | HD PHONO IR Remote Control Unit + Docking station | Dedicated device for HD PHONO |
| 8255134001 | Digital power supply LEMO cable (blue ring) | Standard 1.2 m length for HD PHONO |
| 8255134002 | Analog power supply LEMO cable (blue ring) | Standard 1.2 m length for HD PHONO |

Specifications may change without notice



Disposal of old electrical & electronic equipment (Applicable in the European Union and other European countries with separate collection systems).

This symbol on the product or on its packaging indicates that it should be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your local authority, your household waste disposal service or the shop where you purchased the product.

Applicable to the following devices:
HD PHONO and all the package contents